

REMARKS

Claims 16 and 20 have been amended. Claim 19 has been cancelled. Claims 34-50 have been added. Therefore, claims 16-18 and 20-50 are pending in the application. Reconsideration is respectfully requested in light of the following remarks.

Section 103(a) Rejection:

The Office Action rejected claims 16-19, 21, 23, 30 and 31 under 35 U.S.C. § 103(a) as being unpatentable over Kizilyalli et al. (U.S. Patent 6,548,854) (hereinafter "Kizilyalli") in view of Wu (U.S. Patent 5,880,508). Applicants assert that these claims are distinguishable over the cited art for at least the following reasons.

Kizilyalli in view of Wu does not teach or suggest a dielectric having a dielectric constant greater than about 20 arranged upon the high-K dielectric, as recited in claim 16. Instead, Kizilyalli teaches "a layer 5 of silicon dioxide" deposited on the high-K dielectric layer 4 (Kizilyalli -- Fig. 1; col. 3, lines 10-15). Nor does Wu teach or suggest this limitation of claim 16. Therefore, Applicants assert that claims 16-18, 21, 23, 30 and 31 are patentable over the cited art.

Claim 20 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kizilyalli in view of Wu and further in view of Chou (U.S. Patent 5,994,734). Applicants assert that claim 20 is patentable for at least the reason given above in regard to claim 16 from which it depends.

Added Claims:

In regard to added claim 34, the cited art does not teach or suggest a semiconductor device comprising a low-trap-density nitrogen-containing oxide arranged upon an upper surface of a semiconductor substrate, a high-K dielectric having a dielectric constant greater than about 5 arranged upon the nitrogen-containing oxide,

wherein said high-K dielectric has a thickness of less than or equal to about 10 angstroms, and a conductor arranged above the high-K dielectric. In particular, the cited art does not teach that the high-K dielectric has a thickness of less than or equal to about 10 angstroms.

In regard to added claim 42, the cited art does not teach or suggest a semiconductor device, comprising a low-trap-density nitrogen-containing oxide arranged upon an upper surface of a semiconductor substrate, a high-K dielectric having a dielectric constant greater than about 5 arranged upon the nitrogen-containing oxide, and a conductor arranged directly upon the high-K dielectric. In particular, the cited art does not teach that the conductor is arranged directly upon the high-K dielectric. For example, Kizilyalli teaches “a layer 5 of silicon dioxide” disposed between the conductive layer 6 and the high-K dielectric layer 4.

Allowable Subject Matter:

Claim 22 was objected to as being dependent upon a rejected base claim but otherwise allowable if rewritten in independent form. In light of the above remarks, Applicants assert that claim 22 is allowable as depending from patentably distinct base claims. Applicants therefore respectfully request allowance of claim 22 as currently pending.

Allowed Claims

Claims 24-29, 32 and 33 are allowed.



CONCLUSION

Applicants submit the application is in condition for allowance, and notice to that effect is respectfully requested.

If any extension of time (under 37 C.F.R. § 1.136) is necessary to prevent the above referenced application from becoming abandoned, Applicants hereby petition for such extension. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5500-36101/RCK.

Also enclosed herewith are the following items:

- ☒ Return Receipt Postcard
- ☐ Petition for Extension of Time
- ☐ Notice of Change of Address
- ☐ Fee Authorization Form authorizing a deposit account debit in the amount of \$
for fees ().
- ☐ Other:

Respectfully submitted,

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